

\$2.00

**FUNCTIONAL
ISOMETRIC
CONTRACTION**

System of Static Contraction

ADVANCE COURSE

by **BOB HOFFMAN**

THE BOB HOFFMAN FOUNDATION

26-32 Ridge Ave., York, Pa.





THE BOB HOFFMAN FOUNDATION

THE BOB HOFFMAN FOUNDATION is a non-profit organization dedicated to the task of building a stronger and healthier America. Directors and workers in this foundation include scientists, medical doctors, chemists, physiologists, kinesiologists, psychologists, world famous coaches and trainers, teachers and professors of physical education. These leading scientists are working together to do this important work of building a stronger and healthier America, a work that is so essential to the future welfare of our country, to the survival of our country.

These men combined together, are now in a position with the Hoffman Foundation coordinating and directing their efforts, to do more and better work, toward accomplishing their specified aims.

The work of the Bob Hoffman Foundation is simply an enlargement of the work that we have been doing for many years. For decades, we have been doing everything humanly possible to carry on our chosen work of helping others to become strong and healthy, and now with the full force of the Hoffman Foundation in action, we are in a position to enlarge and accelerate our efforts. We are in a position to do more toward building this stronger and healthier America, this better America.

Bob Hoffman, one of the most dedicated men in America is the president of the foundation which bears his name. He is widely known as the Father of American Weight Lifting, often called "Mr. Physical Fitness". He has spent a lifetime, more than a half century in the quest for strength and super health. He has done well and is a leading contender for the title, World's Healthiest Man. He has not had even a simple headache for more than fifty years, and has not lost a single hour from school, work, athletics, or anything he wanted to do during that time, due to illness. He won in his competitive days more than 600 athletic trophies, for competing in a wide variety of sports. He has been United States champion both as an amateur and as a professional, he has been world's champion, for ten years he was the one hand lifting champion of the world, and on his 50th birthday, he broke the world record for men of his age, by 56-1-0 pounds, in the one arm lift overhead.

For a lifetime, Bob Hoffman has been interested in athletics, in physical training, in physical fitness, in any means which will lead to better health, more strength and greater physical ability. The Bob Hoffman Foundation is a step forward, a means of enlarging the work to which Bob Hoffman has so long been dedicated. Like other members of the Bob Hoffman Foundation, our president receives no remuneration for his work. He is proud of the fact that although he has been publisher and editor in chief of *Strength & Health*, the Physical Fitness Magazine, for 30 years, that he has been the world's leading physical director for thirty years; he has not received a single cent of remuneration for his efforts. He has sufficient for his moderate needs, and does this work because he believes it is necessary for the present and future of America. Bob Hoffman is a patriot, one who loves and is devoted to his country and its welfare. He proved his patriotism in the first world war, was a company commander in the Argonne forest. Was twice wounded and was awarded 11 decorations for valor. He was so supernaturally lucky to survive the intense fighting, that he feels he was saved for a purpose. He is trying to fulfill that purpose by doing everything

(Continued on Inside Back Cover)



The man who is intensely noted being president, Dick Nixon, greeting the head of the returned American team, in his office in Washington.

THE BOB HOFFMAN FOUNDATION

(Continued from Inside Front Cover)

humanly possible to help others become stronger and healthier, happier and more successful. A nation is only as strong as its people, its strength is the sum total of its people. Stronger people make a stronger nation, a nation which will continue to be the world's greatest. We are experiencing trying times, dangerous times. More effort, more work, is needed to protect our present and our future. Strong, healthy people, can best do this work, and the Bob Hoffman Foundation is doing all it can to build these stronger and healthier people.

We have said that the formation of the Bob Hoffman Foundation, is simply an enlargement of the work that we have done for so long. Strength & Health magazine the physical fitness magazine, had its beginning in 1914. In 1937 Bob Hoffman wrote his first big book, a 500 page volume called "How to be Strong, Healthy and Happy". It was a good book then, it is a better book now, as so many of the precepts it taught have been accepted by the world, particularly the medical world. Since that time, Bob Hoffman has written 21 other books, many training courses which have made the Bob Hoffman name known well and favorably over all the world. Many millions of people have read these books, followed the Hoffman training courses to their great advantage. We believe these People to People contacts through the books and courses, the round the world trips with his American weightlifters, have done a great deal not only to help others, but to make friends for America.

Bob Hoffman has financed all of the world championship weightlifting teams and trips, financed a large part of the weightlifting Olympic teams, 21 world and Olympic championships in all. He has helped many deserving young men through college, and some of them are now medical doctors, dentists, engineers and physical educators. He has financially assisted thousands of people, has delivered thousands of lectures, talks, and demonstrations—every single one of them without a cent of remuneration for his efforts or for his travel cost.

He has been happy to do this work, but much more work is needed. That's the object of the Bob Hoffman Foundation. To increase, to accelerate this work. But it takes money to do these things. In most other countries the government supplies the money. Even in little Puerto Rico, they send their deserving weightlifters, and other athletes to college with full scholarships. In this country, this is not done except with football players, a few basketball players and an occasional track and field star. The Bob Hoffman Foundation will be dedicated to this work. Supplying scholarships to deserving athletes, yes, weightlifters too, for that is the sport nearest our hearts. The Russians have said, that it is Bob Hoffman against the Russian government in weightlifting. Not a very even match, but we are doing our best and we will do better.



We hope through the Bob Hoffman Foundation to earn or gain more money to promote this work. Some of the richer foundations may be interested in helping us. Right now, our chief source of income is the amount of money that an individual or a company can legally give to work such as this. Bob Hoffman can advance 30% of his earnings in his various enterprises, which he is doing (enterprises aside from athletics, for he receives as we have been reiterating, no remuneration for this work). The corporations of which he is president, the York Barbell Company, the Strength & Health Publishing Co., the York Precision Co., the Hoffman Laboratory, the Ridge Corporation, the Swiss Automatic Division, and the Aircraft Tool and Engineering Corp., can give 5% of their earnings before taxes. This is a considerable sum, but research costs money, scholarships cost money (\$10,000 for four years of a full scholarship). So we need more, and still more and more. Sales of books and courses will help. You will note that this course, and others in the same family are being sold by the Bob Hoffman Foundation. It will help considerably in carrying on our chosen work.

Right now, one of the major efforts of the Bob Hoffman Foundation is to publicize the Bob Hoffman System of Functional Isometric Contraction. Few readers of this statement will realize the time, the hard and conscientious work, the research, the study and experimentation, the travelling, the utilization of little known scientific principles, the considerable expenditure of money, which has developed this system. We believe that it will do more than any other one thing, to create this stronger and healthier America. For it is possible to build a magnificent body, super health and great strength, in as little as one minute a day.

Profits made from the sale of the Hoffman System of Functional Isometric Contraction, One Minute a Day Training, belong entirely to the Bob Hoffman foundation, which is a non-profit organization, meaning that any money it receives will be used to advance the work to which it is dedicated. So you will know when you purchase a book, a course, or an appliance from the Bob Hoffman Foundation, that you are a part of this worthy work to which we are dedicating our efforts, our money, our abilities, our very lives. Our scientists, our workers, our members of the Bob Hoffman Foundation, our friends who contribute to this worthy work, combined together, are sure to guarantee the success of this effort to produce stronger and healthier Americans, a part of this stronger and healthier America which is our goal. We thank you for your support.

functional

ISOMETRIC

CONTRACTION

System of Motor Contraction

ADVANCE COURSE

by BOB HOFFMAN

As this "Functional Isometric Contraction—Advanced Course" is written we have already prepared three other courses, "Functional Isometric Contraction for Weight Lifters and Body Builders", "One Minute a Day—The Functional Isometric Contraction Way—Exercise Without Movement," and the "Functional Isometric Contraction System For Football," also a 300-page book which covers the Bob Hoffman System of Functional Isometric Contraction pretty thoroughly. I would like to assume that you own, have seen, or have studied these other courses, then I would not have to use precious space in this small course telling you what Functional Isometric Contraction is, or how and why it works. Since this course may get in the hands of complete beginners in Functional Isometric Contraction, I think it will be wise to tell a little of what Functional Isometric Contraction is and how it works.

WHAT IS FUNCTIONAL ISOMETRIC CONTRACTION?

Functional Isometric Contraction is a method of developing strength through static contraction of the muscles in the position in which the muscles are to be used. Functional Isometric Contraction, as we teach it, is a new method and has proven to be a superior method of building functional strength and all-around physical strength.

The Bob Hoffman System of Functional Isometric Contraction training brings together all the known scientific facts of strength, development and body mechanics. The Bob Hoffman System of Functional Isometric Contraction training offers the most scientific, the most up to date, and the most result-producing concepts of strength and development.

A RAPID WAY TO BUILD STRENGTH

Functional Isometric Contraction as we teach it (we means the scientists and teachers of the Bob Hoffman Foundation: Dr. Francis Drury, of L. S. U., a professor of Physiology and Physical Education; John Zeigler, M.D., who did a lot of research in cell growth and rehabilitation; Martin Broussard of L.S.U., football trainer at L.S.U.; Al Roy, at whose research center in Baton Rouge, La., many extraordinary, nationally famous athletes have trained; and my associates in York, Pa., at Foundation headquarters, John Grimek, Steve Stanko and John Terpak) is a scientifically proven, very rapid way to develop super strength. Functional Isometric Contraction will develop functional strength more quickly and more completely than any other method known to man.

Although some methods of Isometric contraction suggest the resistance of one muscle against another, or against the muscles of a training mate, in the Bob Hoffman System of Functional Isometric Contrac-

tion, trainees work against immovable objects against which a maximum effort can be applied. With this type of equipment, maximum resistance to the effort of the muscle is so secure, that the muscle can not move the weight or object and the muscle stiffens but does not shorten. The muscle does not change in length. All the muscle energy is used in tension and none in movement, when performing Functional Isometric Contraction as we teach it. Therefore, it develops the maximum amount of muscle tension. More muscle tension can be exerted by Functional Isometric Contraction than by contraction, where, by means of movement, the muscle is allowed to shorten and work. This is one of the most important reasons why Functional Isometric Contraction is a quick and superior method of developing strength.

FUNCTIONAL ISOMETRIC CONTRACTION AS A TRAINING SUPPLEMENT

This does not mean that Functional Isometric Contraction should not be the sole means of developing strength, rather it should serve as a supplement to weight training efforts of movement. Because it does not induce fatigue, this new system makes it possible for you to train on the days which intervene between your regular weight training days, thus speeding up the attainment of your goals in strength and physical ability.

The Functional Isometric Contraction system combined with Isometric Training with weights is a superior system of strength and muscle building which is the culmination of many years of effort, many years of scientific study, years of experimentation and practice. It is a superior method of building great strength and unusual muscular development.

The Functional Isometric Contraction System, combined with Isometric Contraction with weights, works on the principle that only through progressive training with very heavy weight resistance can super strength and maximum muscularity be built. There must be a constant effort to work against more and more weight resistance. It is nature's way to meet demands made upon the muscles, so that they will become stronger and more enduring. Only with progressive weight training can physical progress be measured accurately.

YOU CAN TRAIN 5 OR 6 TIMES A WEEK

With the combined Functional Isometric Contraction training with weights, and Functional Isometric

Contraction against static resistance without weights, you can continue to train day after day, 5 or 6 times a week, with heavy weight resistance. In fact, progressively heavier weights can be used on your three days a week of Functional Isometric Contraction Training with Weights, and you can use Functional Isometric Contraction with Static Resistance on the days in between.

With the usual weight training system, you train hard with heavy weights, often practicing your exercises in sets. This method is tiring and you require a considerable period of rest between training sessions. This is the primary object of every other day training. You rest and build your muscles on the intervening days. Instead of having only one or two days a week of hard training, with this system many men trained their limit every training day, and few men have the recuperative power to keep up this limit method. That of course is the reason for the Medium, Light and Heavy Method of training.

Functional Isometric Contraction with weights, is indeed a worthy method (for only with weights can you be sure what you are doing), but you can gain good results too, with static resistance, if you have practiced this method for a considerable length of time. This method has its advantages, for with heavy athletic training you must have a gymnasium or playing field in or on which you practice. Now you can practice the method of training against static resistance at home, at odd moments, and thus speed your progress. This training at home can be done with the various methods we suggest in the one dollar course, "One Minute a Day—The Functional Isometric Contraction Way", using a doorway, other solid objects you find around the home, or with inexpensive appliances such as the board with two chains, the single chain and bar device, which will help you gain on your intervening training days and build a very good measure of strength in itself, for it is tested to 300 pounds resistance in the various movements.

TRAIN TWICE AS OFTEN GAIN 3 TIMES AS FAST

With this method you train twice as often and gain even more than twice as fast—perhaps three times as fast—as with the three times a week training systems so commonly practiced. On the intervening days if you have one of the portable racks or one of the expensive racks which can be set up in your garage or basement, you can practice the variety of advanced training methods detailed in this course in addition to your practice of another sport or heavy body building or weightlifting at a gymnasium. You should be governed by circumstances and work out



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a training system which will speed your progress and help you obtain the most from your training

There are so many ways to train that it can be a bit confusing at first, but we feel sure with the suggested methods that this Advanced Course contains, you will have no difficulty working out a system which will be ideal for you and enable you to obtain a maximum of physical progress

THE TRAINING METHODS OF THE CHAMPIONS

Only maximum contractions, only the application of great force will develop the strongest muscles. With the Functional Isometric Contraction system, as we teach it, there is little or no muscle fatigue, even after being subjected to the limit of force. Rather, there is a feeling of exhilaration, of well being at the end of the training period. Your muscles start immediately to grow in strength and are ready and able to perform even harder work the next day and greater work as the days pass. With the usual training system much time is spent or lost in waiting for the muscles to become rested. A muscle can not increase in size and strength after demands have been made upon it with the usual training methods until it is thoroughly rested. This may take from 24 to 36 hours. With the Functional Isometric Contraction System of Power Training, advanced men, those who have gone through a considerable period of training, can work their muscles up to the limit of their strength, yet the muscles do not become really fatigued. New growth in cells and in muscle tissue starts to take place immediately. The Functional Isometric Contraction System of training requires little energy. It is not tiring, yet it builds super strength and development, strength in the muscles as well as strength in the tendons and ligaments.

program for Louis Riceke consisting of Functional Isometric Contraction Training with static resistance. These courses included limit training and maximum effort against an immovable object. We were not only the first, but we are putting forth an all out effort to urge every American man and woman, every strength and health seeker, every athlete, to follow this superior form of training. The old civil war general said, 'The side wins who gets there 'fustest with the mostest men'. In our case we were "fustest and we are doing the mostest" and those who follow our methods will find them the best and will obtain superior results by training with the Bob Hoffman System of Functional Isometric Contraction. There is too much misinformation flying around, so many contradictions, so many so-called experts who circulate misinformation about Functional Isometric Contraction, so many wild claims and counter claims, that as a result trainees are confused and are not achieving the results they would be gaining if they were following the correct system we offer. We ask you to consider carefully, note that we have had the most experience, the most successes. We have the greatest scientists devoting a large part of their time to research and development work with Functional Isometric Contraction. Follow our methods to the exclusion of all others for a few weeks. If you do not gain superior results, we will not blame you if you try other methods, but we are sure that you will obtain your physical desires with the Bob Hoffman System of Functional Isometric Contraction.

AN ORIGINAL, SUPERIOR SYSTEM OF TRAINING

Functional Isometric Contraction is a copyrighted name which is applied to the system of static resistance being promoted by the scientists of the Bob Hoffman Foundation. It is a copyrighted, original, superior system of training. Not just any old system of Isometric Contraction will do. To gain best results you need the best methods. You can be sure that you are following the best methods when you follow the Bob Hoffman System of Functional Isometric Contraction. With this system of developing functional strength through static resistance of the muscles, the muscles are taught to apply this strength in the position in which the muscle is to be used, developing great force where force is needed and desired.

This system of Functional Isometric Contraction builds muscles and strength fast. When a maximum effort is made against an immovable object, a momentary shortage of oxygen is created which causes the tiny blood vessels, the capillaries, to grow larger and with them the muscle grows larger too. In order to

equal the overload to which it is being subjected, it develops the ability to carry more blood with its oxygen, glycogen or muscle fuel and thus develops the ability to exert more and more force. This constant overloading causes the muscles to become larger and stronger, providing more fuel for the larger muscle as training the Functional Isometric Contraction Way continues.

TOO MANY EXERCISES TOO MANY POSITIONS

One of the common faults of those who make adjustments in the Functional Isometric Contraction System is to include too many contracting positions. This causes overwork. Stimulate the muscles fully for development, but don't approach complete fatigue.

One of the big advantages of the Functional Isometric Contraction system of training is that it develops maximum coordinated effort. It trains the muscles and the nervous system to give maximum coordinated effort in the position of the needed force. The old method of developing strength did not develop maximum functional strength in the position in which the strength was to be used. This form of training builds the ability to put forth a great explosive effort and this, more than any other one thing, accounts for the new athletic records which are being created in rapid succession. The high jump record holder, Russia's Valeri Brumel, who told the author in Moscow that he is one of my pupils, could only high jump 6'6" until he received and put into effect my system of training, and then he moved up to a world record 7'4". Jay Sylvester broke the world's discus throwing record time after time, and he tells the world that this became possible because Bob Hoffman showed him the Functional Isometric Contraction way when they met in Leningrad and Moscow. Gary Gubner is another who met the author of this course in Moscow and Leningrad, and since training the Functional Isometric Way and using the other methods of training outlined in this book, he has broken the world's shot put record time after time. If he enters a contest and does not again break the world record, people are surprised. All athletes who have used the Hoffman System of Functional Isometric Contraction have broken and rebroken their records. New records in the mile run and the pole vault have also resulted.

AN ALL-OUT EFFORT

This system of Functional Isometric Contraction teaches those who follow it to make an all-out effort.

In the past, few athletes were able to make an all-out effort, so they never reached their potential in their sport. Although a great deal of strength can be developed without this all out effort, those who make the world's records are those who, through this form of Functional Isometric Contraction, have learned to put forth an all out effort.

BUILDS NERVE FORCE

The Functional Isometric Contraction System of training builds the mental as well as the physical powers. As you put forth the maximum physical effort you may feel your muscles quivering a bit, thus you know you are exerting every nerve and muscle fibre. As the muscles strengthen and enlarge through use, the nerves are strengthened too. This results in nervous strength and energy as well as muscular strength and energy. Another of the reasons why those who practice this wonderful new training system which Bob Hoffman and the scientists of the



Bob Hoffman performing a straddle lift with over 500 pounds
Here you see the first Hoffman Isometric Isotonic Super Power
Rack, which was installed in 1956

Bob Hoffman Foundation dev. and have succeeded so well. It is truly a wonder of the world. Make full use of it.

YOU CAN DO TOO MUCH

Functional Isometric Contraction training even with heavy weights, stimulates you so greatly that you feel like you could go on and on practicing exercise after exercise in the ambitious desire to advance as rapidly as possible. In this Advanced Course we have been telling you of the training methods which have worked well for others, so that you can try some of these methods. Such a system provides interest and variety to your training period and as we have always felt that variety in exercises we call it practicing the thousand exercises speeds program, you should obtain better results by at times trying these different methods. Both Louie Ricke and Bill March, the original successful users of this system, showed the way as they gained such sensational results from

their combined training methods. Louie Ricke trained with Functional Isometric Contraction without weights usually four days of the week. Bill March trained with the Functional Isometric Contraction System with weights. Both young men lifted limit poundages once a week either in a weight lifting contest or in trying for new records in a heavy gymnasium session with weights.

Yet others have obtained good results using some of the other methods we have offered.

YOU MUST BE YOUR OWN TRAINER

We constantly reiterate, you must be your own trainer. We can tell you how and suggest methods you should follow, but only you know how your body reacts to the exercises, only you know how you feel. If you feel like a mummy the next morning, you are not doing too much. But you can do too much, you can work on your nerve too often, and while you should not become a nervous wreck even with this excessive training, you might find yourself a little on the nervous side, perhaps short tempered, easily upset. Don't train that hard. Take it easier for a time. Perform less exercises or less application of force. Even when Louie Ricke and Bill March were making these Functional Isometric Contraction Training demonstrations which became world famous, there were times when they did not gain as fast as they should and we had to suggest that they perform fewer exercises with less resistance. This is where Functional Isometric Contraction Training with weights works best for that is the only way to know what you are doing. That is the best method to practice the method and heavy system to be sure that you are not working on your nerve force too often.

If you feel a little stale, a little "washed out", or you do not make the progress you desire or expect, take it a little easier for a time.

WHY SOME SUCCEED AND OTHERS FAIL.

Some men can train more than others and some men make more rapid progress than others. This could be superior training methods, but more than likely it is a result of the lives these rapidly advancing men live. It has been said that a human body bears some resemblance to a field. A fertile field grows a magnificent crop even with a minimum of fertilization and cultivation, but an infertile field, before it can produce a good crop, requires a lot of organic fertilization and cultivation.

YOU MUST SUPPLY YOUR BODY WITH GOOD BUILDING MATERIAL.

Men who gain rapidly are those who have good



The action of a course exercise when he can, where he can, and with anything he can find to push or pull against. Here he is working in a doorway.

to "sweet clothes." When you are approaching or passing middle age it is essential that you keep yourself warm. On special training programs which extend through the summer, I wore sweat clothes every day. It is the best way. Train two hours before or two hours after your evening meal.

After your workout have a shower and, if you are at home, relax or rest for a time, then get going to do what you want to do: the evening meal, an evening out, television, reading, relaxing or whatever you may desire.

SHOULD REGULAR TRAINING AND ISOMETRIC CONTRACTION BE PRACTICED THE SAME DAY?

Many trainees train with their weights only one day. This can be Muscle Contraction with Limited Movement, M.C. with Unlimited Movement, M.C. with Measured Movement. It can be weight lifting with supporting exercises for those who are weight lifters.

heredity, good living habits and who follow the rules of healthful living. To follow the rules of healthful living, you should live as good a life as you can. Cut bad habits such as smoking and drinking of alcoholic beverages to a minimum. Eliminate foodless foods from your diet. By foodless foods, I mean foods of such little value that they contribute little if anything, to building or maintaining your body. Products made of white flour and white sugar are usually in this category. You can't expect much of a coffee and doughnut diet or expect much from what is often called the "sterling diet." Hot dogs, hamburgers, potato chips, french fries, colas, ice cream and candy, or even the stereotyped American diet of meat, potatoes, white bread, pie and coffee. You need plenty of good protein, protein of high biological value, complete protein which can be used completely by the body. For 95% of your body, less the fat and water, is made of protein, and to build and maintain your body you need plenty of good protein. It is a rule of nutrition that there is no protein for body building until all other needs have been met: needs for maintenance and repair, and in the event that there is not enough energy supplying materials in the diet, protein will be used for this purpose first, rather than for building. You need dark green leafy vegetables, yellow and green vegetables and fruits. Eat natural food as much as possible.

OTHER RULES OF HEALTHFUL LIVING

There are other rules of health which are important to the development of strength, muscle and athletic ability. Obtaining sufficient sleep, rest and relaxation is one. Maintaining a tranquil mind is another. The body and mind are inseparably tied together and if you experience negative mental conditions, stress in its various forms, worry, fear, hatred, bad temper, you will not get the best results. Follow health rules first, then follow good training, the best training methods, as offered in this advanced course, and you are sure to attain your physical desires.

WHEN SHOULD YOU TRAIN?

On your moderate Functional Isometric Contraction days, it matters little when you train. I train in the morning or late at night, just before the evening meal, after eating, for a full stomach is not a handicap when you are practicing moderate exercises without movement. I use my single chain apparatus while I am dressing, shaving, and performing my ablutions in the morning. I may do the exercises just before retiring.

But when it is your hard day, the situation changes



Johnny Terpak performing the Hoffman Frog Kick with an apparatus. A very good example of the Hoffman Frog Kick. Johnny was U.S. and world champion for 12 years, was captain of the 1936 Olympic team, in just 13 training periods, irregularly scattered over one month, with Functional Isometric Contractions, he built an arm which felt like a 16 pound shot when flexed, legs which felt like a collection of steel cables.

and body builders, and there are many who obtain good results from training both with weight training and Functional Isometric Contraction exercises the same day. This is not unusual, for we recommend the practice of Functional Isometric Contraction the same day that one's athletic sport is practiced. A very successful coach, Jim Corneliusman, swimming coach at Indiana University divides his training day like an apple pie. He cuts it in half. One half is swimming practice in the water, the other half is divided into three pieces or sections, called dry land exercises. One Functional Isometric Contraction, one Muscle Contraction with Unlimited Movement, which is actually standard bar bell training, the other Muscle Contraction with Measured Movement. This dry land program takes three hours daily, and by training in this manner the Indiana swimmers not only won the national team championship, but set five world records while they were doing it.

Hundreds of athletic teams practice more or less of Functional Isometric Contraction, plus the regular training for their sport. Unfortunately some spend too little time at Functional Isometric Contraction, 3 exercises, only for 6 seconds duration, just 18 seconds. The absolute minimum should be 6 exercises for 10 seconds each the One Minute a Day plan. There are 1440 minutes in a day and the use of a few of these for Functional Isometric Contraction can and probably will be so important the difference between a good season, a winning season and a losing one, the difference between a championship won and a championship lost.

LET'S GO THE WHOLE WAY

We must repeat, anything worth doing is worth doing well. If you intend to include Functional Isometric Contraction drills in your training program, let's go the whole way. Let's make the best of this superior form of training. You will gain so much in a physical way, coordination, endurance and all around playing skill, that you will not require quite so much training.

In the discussion of the last few paragraphs we were referring primarily to the training of athletic teams. When training alone to improve your athletic ability or to build muscles and strength, you will be wise to practice Isometric contraction at times with your weight training. I say at times, for on your heavy days of lifting or weight training, that will be enough. On your medium and light days you can profit by some Functional Isometric Contraction training.

THE BEST TIME FOR FUNCTIONAL ISOMETRIC CONTRACTION TRAINING

There is a big discussion at present as to whether

the Functional Isometric Contraction Training should be performed first or last. Our football experts, Al Roy, Dr. Francis Drury and Al Broussard, are adamant in their insistence that Functional Isometric Contraction training be performed after all the other training has been consummated. It is their opinion, that although Functional Isometric Contraction may seem easy that it makes greater demands on the body than we think. They recommend the Functional Isometric Contraction training last.

At the York high school field, the team practiced their Functional Isometric Contraction first. It worked well. Jim Rowe, a player who was unheard of last year outside of local circles, was selected as all state end and later as an All American Scholastic and he caught more passes, kicked more field goals, made more points after touchdown than any player in Pennsylvania history, and a lot of good players have come out of Pennsylvania. It certainly did not hurt him, did not adversely effect his timing nor his coordination. Other members of the team did well too and the entire team had a very successful season. Although performing your Functional Isometric Contraction training may be better last, I have always preferred to do mine first. I perform the Functional Isometric Contraction exercises first and then complete my program with my measured movement exercises. So follow the plan which is most convenient for you.

PRACTICE A VARIETY OF EXERCISES

You should practice a considerable variety of exercises, not necessarily on a single training day but over a period of time. Variety of exercise does build the greatest strength, the most muscle and superior athletic ability. The body is a pretty complicated piece of machinery. It is made up of an estimated three trillion cells, four billion muscular fibers, 720 known muscles. These muscles are designed to motivate the body in every manner to run, to jump, to lift, to pull, to push, to carry. A great many muscles are in operation with every exercise and every task that is performed. Not only the prime movers, the big muscles of the legs, arms and the body but many other muscles too, their antagonists, their balancers and stabilizers. The more of these muscles you can develop and the more you can develop them, the greater will be your physical ability. Strength is the most important characteristic of an athlete, or of any man in fact, although endurance and agility serve well too. Through the exercises we have suggested, you will develop all of these desirable physical qualities.

TO SUCCEED NEVER MISS AN EXERCISE PERIOD

One of the important rules of training is, "To succeed, never miss an exercise period." If you have an Isometric Rack at home, you need never miss an exercise period. You can perform your exercises if you are in a hurry in one minute a day the Functional Isometric Contraction Way.

DO NOT HOLD YOUR BREATH

Do not hold your breath while exercising. Breathe

cannot exert as much force thus creating as much need for oxygen as you would in a hundred meter race, while applying maximum force for 12 seconds, you can create a condition of such breathlessness that it would be very harmful to hold your breath. So breathe as much as you need to keep yourself comfortable as you put forth the maximum effort.

DO YOU NEED TRAINING RACKS?

Many people are telling the world that you don't need results without them. If

sort of results you want. If you are satisfied to be just a little stronger than the average man, you can push your hand against the other you can raise on your toes, for six seconds, you can spread your fingers or you can live far in the past as so many are trying to

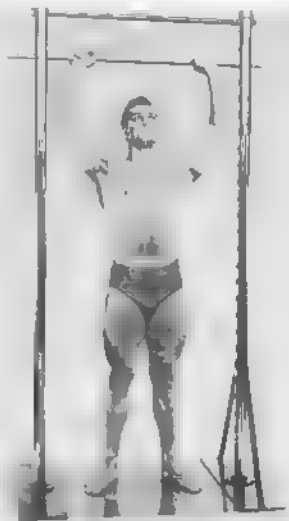
if You can push down with your extended hand for perhaps thirty pounds. A pair of powerful legs are

If you want 30 pounds of strength, don't use a rack. If you want the maximum of strength you will need equipment to exert your strength against. In a recent issue of the *Boston Herald*, a columnist has this to say. Since I, for one know a great deal about Isometric Contraction I feel a certain obligation, not only to assure you that practiced prudently it has incalculable value, but also to dispel extravagant claims made for it by unprincipled persons who stand to profit by its popularity. He goes on to say, "But I would be derelict in my duty were I not to caution you against spending a penny for any such equipment as the Isometric racks devised not only by Obeck, but by Bob Hoffman, an authority on weight lifting, who has moved into the Isometric method. Racks

commercialism. After all Isometric Contraction is no quackery, no mere fad but an exact science to which esteemed physiologists have devoted much time. There is, for example not a shred of doubt about its efficacy in strengthening abdominal

muscles after childbirth. To strengthen the lower back and reduce the waist line, you merely gird a towel around your waist and the small of your back, and then you push as hard as possible against the towel by tightening the muscles of your abdomen and buttocks. Doing this only two seconds a day for a month will produce flabbergasting results.

Since 1928, exercises similar to those recommended by the Boston writer have been used with Functional Isometric Contraction going no farther than as an exercise after a heart attack, after childbirth, for rehabilitation, etc. We changed Isometric Contraction into Functional Isometric Contraction, a real system of exercise. If you are satisfied with the kind of health athletic and all around physical ability, you



Functional Isometric Contraction Training With Weightlifting. The author, Dr. Robert Hoffman, is a world-famous expert on the subject of physical fitness. He has written the book "The World's Best Book on Physical Fitness" and is the author of "The World's Best Book on Physical Fitness".

need some sort of a rack or appliance to exert your strength against

VARIOUS KINDS OF FUNCTIONAL ISOMETRIC TRAINING APPARATUS

1. A doorway bar will serve. I used one all around the world. It takes a lot of changing of positions, however, but if you have the time, it will serve you well.

2. Another worthy appliance, which is inexpensive, costs only a few dollars with a training course, is a device made with a single chain, a board to stand on and a wooden bar. This device is tested for 300 pounds and permits a fine variety of isometric exercises. It is compact enough and light enough that you can carry it with you wherever you may go.

3. If you are satisfied to perform only Isometric Contraction with an empty bar, you can build a rack of 2 x 4's or 2 x 6's, by obtaining two boards and drilling holes in them to permit your bar adjustment.

4. The Bob Hoffman Foundation offers for sale a compact, portable Isometric Contraction rack for Isometric training without weights, and also a rack which permits all the worthy training methods outlined in this advanced course. One which will let you work with the ten training methods we have outlined in this course, and also with some appliances, will make it possible to use this rack as 16 training machines in one. And, of course, there is the best rack of all, the Hoffman Isometric Isotonic Super Power Rack described in this course.

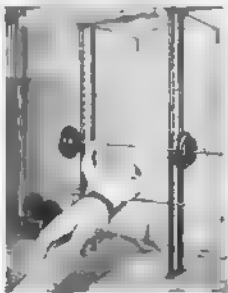
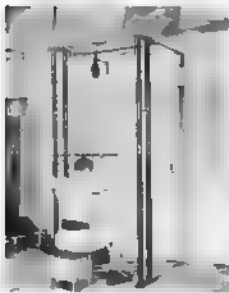
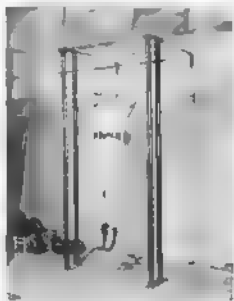
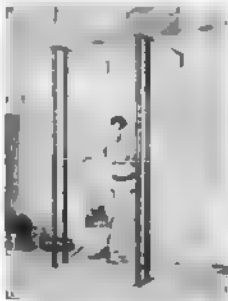
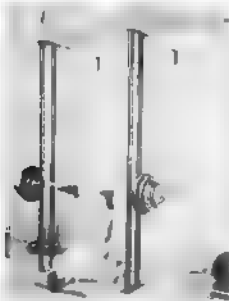
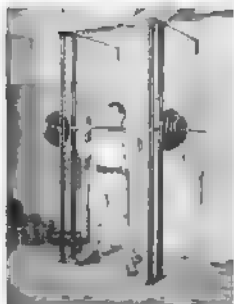
The Hoffman Isometric Isotonic Super Power Rack is so designed that it permits 16 worthy, result producing systems of training. This patent applied for rack makes possible endless, interesting, variable exercises which will quickly bring all around physical ability, more strength, muscle and super health.

1. Functional Isometric Contraction Training Without Weights
2. Functional Isometric Contraction System of Training With Weights
3. Muscle Contraction With Limited Movement
4. Muscle Contraction With Unlimited Movement
5. Muscle Contraction With Measured Movement
6. Leg Press Machine
7. Straddle Lift Machine
8. Inclined or Decked Bench
9. Abdominal Board
10. Press Stand
11. Squat Stand
12. Chinning bar also chinning with Parallel bar attachments
13. Bench Pressing
14. Pulley Training Device
15. Grip Forearm Developer
16. Parallel Bar Pressing Device



This German man is a noted physical specimen of his time. A number of the 500 "top" tests he made on himself with the Hoffman Isometric Isotonic Super Power Rack are listed below. He was one of the 100 men in America who were named as one of the 100 best forms of training which can be practiced with the Hoffman Isometric Isotonic Super Power Rack.





head for the middle press, at chin level for the starting press, at breast bone level for the high pull, at top of belt for the middle pull, two inches above knees for the low pull or dead weight lift, four inches below the legs straight position for the top knee bend, half way between parallel and the top bend position for the middle bend, at the legs parallel position for the lowest bend. For the raise up idea you do not need the top pin simply raise on toes as high as you can and maintain that position for the desired period. For the shoulder shrug, you do not need the top pin. The lower pins are usually set two notches below the top pin, so that you can pull or push the weight from this position to the retaining pin.

You use the progressive method of training, striving to handle more and more weight as the days and weeks pass. In any given exercise, if you find it possible to pull or push the bar against the retaining pins, if you wish you can exert more force against the pins. The next time you perform this particular exercise, you should increase the weight resistance.

Very heavy poundages can be used with the Hoffman Isometric Isotonic Super Power Rack. I have seen Riecke and March use more than 400 pounds in the starting press, 300 in the middle press, and over 500 in the lockout press, 1000 pounds in the top leg and 500 pounds in the middle bend, 400 pounds in the lowest knee bend, 350 pounds in the middle pull, 500 pounds in the pull at knee level. In addition to the three thrusts, all of the other suggested exercises can be performed on the Super Power Rack in the same manner, pulling or pushing the weight against

the top pin. The three thrusts bring superior results to weight lifters, and they also will be very helpful in fulfilling the physical desires of any other man. They build all around strength in the body in the positions in which it is most natural to exert force.

What we often term Pure Functions, Isometric Contraction, using only the bar without weights against an immovable object, static contraction, has been so simple. Just practice a few exercises as little as one minute a day of actual exertion and with this minimum time and effort it is possible to obtain a very rich physical reward. Most of the trainees who practice the systems of exercise without movement, which we have offered in the One Minute a Day Course are satisfied to increase their strength and their health, to look better and to feel better. For these people who want to keep fit in the easiest and quickest possible way, little time and effort is required. They need not be concerned about the time of the day they train, how long they exercise, how they are dressed for exercising, and as they do not work hard enough or long enough to create perspiration, they do not have to be concerned about special bathing. With reasonable persistence in practicing the exercises of these simple Pure Functions, Isometric Contraction systems we have offered, they will find it easy to become twice as strong as the average man to be well enough built to attract favorable attention in street clothes or at the beach, to enjoy splendid health, to have good endurance, rapid recuperative power and the expectancy of a long and vigorous life.

ISOMETRIC CONTRACTION WITH WEIGHTS

THE ADVANCE COURSE USED BY BILL MARCH

HOW TO USE THE HOFFMAN ISOMETRIC-ISOTONIC SUPER POWER RACK

Some fellows like to work from the bottom up, that is with the heavy full squat being the first exercise after the Hanging Frog Kick Exercise. They move up through the Parallel squat, the three pulls and the three presses. They usually perform their nearly straight leg dead weight lift and the 1 1/2th knee bend when the weight is at the position which suits them best. The author of this course, and many others who train alone, prefers to start at the top and work down. This is easier when one man is making the changes.

In moving up, when two train together, it is not difficult to raise the partially loaded barbell. I keep a strong chair on each side of the Super Power Rack and thus I can take off and put on plates with speed and comparative ease. Practice will help you determine which method you prefer. We will list the exercises from the top down and you can reverse them if you desire.

1. Hanging from bar, pull up legs like frog kick
2. Full Press Out and hold weight about 4 inches

below lock out position.

3. Middle Press—Starting at eye level and pressing about 8 inches
 4. Starting Press—from starting position to eye level.
 5. High Pull Up—wide grip pull up from belt level to breast bone.
 6. Pull up from extended arms to belt position.
 7. Dead hang type of pull from below knees, hanging arm straight back position.
 8. 1 1/8th knee bend with very heavy weights
 9. Middle Leg Press position from parallel position to 1 1/8th bend position.
 10. Full Squat Position from lowest squat to parallel
 11. Raise on Toes
 12. Shoulder Shrug
- Hanging exercise to complete the training program

1. It is more convenient to leave a 5' bar at the top of the Isometric side of the Super Power Rack. Hang from this with back knees toward the body, keeping heels together, pull the legs up as far as possible like a frog kick. Advanced men pull the knees up high enough to touch the body. The object of this exercise is to warm up the body, prepare it for the harder work to come to extend and align the spine, to develop all of the mid section, notably the abdominal muscles. 10 to 20 repetitions

2. Exercise to improve your ability to hold weights overhead. Many championships are lost because the lifter fails to hold the weight overhead. Set the pins so that the weight is four or five inches below the extended arms position. When you are exercising, press to arms length, lower and repeat the desired number of times. When you are training for maximum strength, press the weight to arms length, lower about three inches and hold for 9 to 12 seconds in this position.

3. Middle or Intermediate Press. This exercise is designed to aid the lifter to pass the sticking point, the point where so many lifters fail. Set the pins so that the weight is at eye level. In exercising from this position, using a poundage which permits correct performance, press from eye level to a position a few inches above head. When working for maximum strength, hold a very heavy bar at head height for 9 to 12 seconds.

4. Starting Press—Set the pins so that you can assume the position of the starting press with weight on chest. Press to eye level. Many advanced lifters can use 500 pounds in this exercise. When training for maximum strength, take the heaviest weight you can press off the starting press pins, press it to chin level and hold for 9 to 12 seconds.

5. High Snatch Position. This exercise is the top of the snatch position. Set the pins so that the bar is even with the breast bone. Using a wide grip, pull the weight

as high as you can. When training for maximum strength, pull the weight up to the breast bone, at the same time raising high on toes, raising chest and shoulders, throwing head back as in the very heavy top snatch position. As in all of these exercises, press or pull mightily against the bar for 9 to 12 seconds.

6. Pull to Middle Clean and Snatch Position. Start with bar against the thighs, arms straight. From this position pull the bar so that it reaches the top of belt position, as if you were going to place it on the belt to continental clean. As you pull, raise high on toes, raise chest and shoulders, throw head back, pull mightily. Much of your success as a weight lifter depends upon the correct execution of this exercise with a very heavy weight. Hold in high position for 9 to 12 seconds.

7. Partial Dead Weight Lift. Starting with the bar 1 just below the knees, the legs are working, the back is pulling. As an exercise the movement ranges from the knees to the back straight position with arms hanging straight. As a super strength exercise the bar is drawn up so that you are standing with the back leaning forward at a slight angle. Here you continue to pull mightily against a very heavy weight for 9 to 12 seconds.

8. 1 1/8th Bend with a Very Heavy Weight. Set the pins so that you can get under the bar with the legs partially bent. As an exercise, straighten the legs, lower and repeat. Advanced men use as much as 1000 pounds in this exercise. To use this amount, you need a special 8 foot, two inch steel bar. The bar that is usually employed with the Super Power Rack is 7 feet long, made of tempered Chrome Vanadium Steel. It will hold 800 pounds. This exercise will impart power to the muscles which straighten the legs and also will assure that the weight can be driven strongly to overhead in the jerk. As a power exercise, hold the bar with the knees slightly bent for 9 to 12 seconds.

9. Middle Leg Press or Knee Bend—This exercise will start with the legs parallel to the floor and finish at the 1 1/8th bend position. As an exercise, a power movement, range from parallel to the 1 1/8th position, or hold the barbell about half way between the lower and upper positions for from 9 to 12 seconds.

10. The full Squat Position. This exercise should never be neglected as it is important to have maximum strength in the lowest position. Squatters must be strong in the low position. As a low split is actually a one-legged squat with the front leg it is necessary to build strength in the low position.

Lifters perform this movement from the low position to parallel with the weight held on the upper chest. Non lifters place it upon the back. As an exercise, move from the low squat position to parallel. For years we have been writing that the Oriental lifters who are such

fabulous squatters perform their quarter squats from the bottom up. This is the exercise which will help you. As a power movement, the weight should be held for 12 seconds between full squat and parallel.

11 The raise on Toes One of the most important exercises. Set the pins so that the bar is barely above the shoulders. Raise on toes raising the weight as far as you can. This can be a repetition exercise, practiced with the toes turned in at times, at other times turned out or straight to the front. Great strength can be developed in the feet, plus spring and power which will help in any athletic sport or game and will help in the business of

Erving. As a power exercise, support the weight in the highest possible position for 9 to 12 seconds.

12 The Shoulder Shrug. Set the pins so that the bar is held with the arms at full length, downward. From this position pull the bar up as far as possible by shrugging the shoulders. As an exercise, you can practice in series of six each. As a power exercise, hold the weight as high as you can for 9 to 12 seconds. One national champion hammer thrower uses up to 800 pounds in this movement.

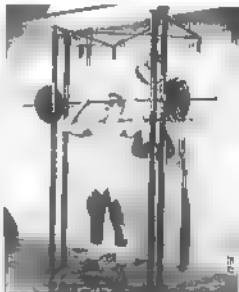
To end your training program, hang from the bar for 30 seconds or more. This will stretch a little and give the spring



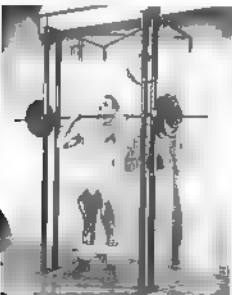
Exercise #1 Hanging from Bar Pull up legs like frog kick



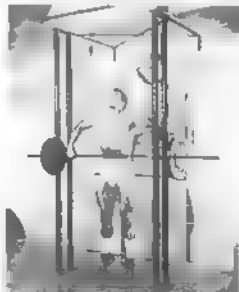
Exercise #7 Full Press Out To backout Position



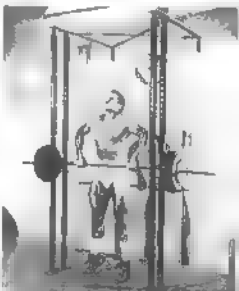
Exercise #8 Middle Press



Exercise #4 Sticking Press



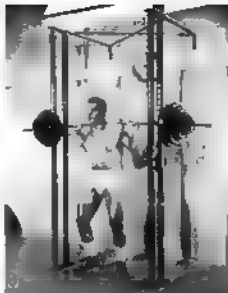
Exercise #5 High Pull Up



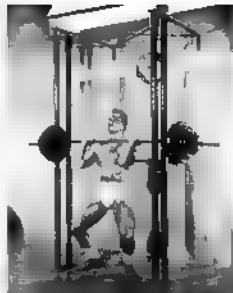
Exercise #6 Middle Pull



Exercise #7 Dead Hang Pull



Exercise #8 with Knee Band



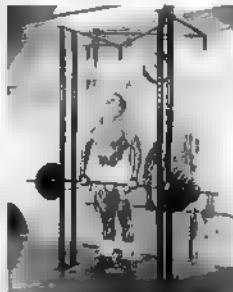
Exercise #9 Middle Leg Band



Exercise #10 Full Squat



Exercise #11 Knee on Floor



Exercise #12 Shoulder Shrug

THOSE WHO WANT THE LIMIT OF STRENGTH AND DEVELOPMENT NEED THIS COURSE

Those who are satisfied with a moderate increase in strength to enable them to get through the day without wishing to go past the point of exhaustion, may find the Functional Isometric Contraction Way. We think that about 90% of those who train with Functional Isometric Contraction will find it that it will change a day's routine without weights or heavy Functional Isometric Contraction Training. We also

think that an estimated ten per cent of those who practice Functional Isometric Contraction who desire the maximum strength and development and to obtain extraordinary should have a book to tell them how to obtain the maximum strength, this exceptional physical ability. Therefore we are offering this advanced course in Functional Isometric Contraction training.

As we have said, Pure Functional Isometric Contraction is too simple. The advanced methods of Functional Isometric Contraction are pretty complicated.

They require more time and more effort. It has been proven that you get out of exercise what you put into it. If you want the maximum of strength, development and esthetic ability, you must work harder and train more scientifically to obtain it. There are so many articles in the papers and magazines telling the world how easy it is. It is not news if you have to work to obtain your physical desires. One "expert" tells you that you can double your strength performing three simple exercises, pressing your hands together in front of the body, extending the tensed arms to the sides with the fingers spread, and raising a few inches on the toes while standing bent knees and holding this position for six seconds. Another who believes in "he-man" exercises, tells the world through the medium of the daily papers of big circulation that it is very simple. One exercise is enough, just back up to your car, bend your knees, grasp the bumper of the car and pull with all your might. In that cramped position you'll get results from such an exercise: ruptured, ruptured duels, strained backs, torn ligaments, strained muscles, possible internal injuries and broken capillaries. The average human is not in the physical condition to make a maximum effort in such a position.

The one minute a day Functional Isometric Contraction training systems have done well. The vast majority of my own training has been done with portable equipment, as I am in distant places much of the time. I am hurrying to finish this course before I make my fifth trip to Russia with a weight lifting team. When I am away, I do the best I can with a Doorway bar, or a simple device made with a stick, bar and chain. But when I am home, I can make full use of my well equipped home gymnasium. I train the various ways we will outline in this course. I find that the portable equipment is a worthy way to maintain strength after you have reached an advanced stage in strength and development. The more advanced methods are needed to go forward and to reach the heights of all around physical ability. This advanced course of Functional Isometric Contraction will include instruction in the following training methods:

10 EXCELLENT TRAINING METHODS

- 1 Pure Functional Isometric Contraction.
- 2 Functional Isometric Contraction with weights
- 3 Muscle Contraction With Limited Movement
- 4 Muscle Contraction With Unlimited Movement
- 5 Muscle Contraction With Measured Movement
- 6 Medium, Light and Heavy System with Varying weight resistance

7 Medium, Light and Heavy System with Varying Repetitions

8 Repetition Isometric Movements.

9 Isometric changing tensions, repetitions.

10 Functional Isometric Contraction Compound Exercises.

Of these ten methods of training, all but the first require the use of weights.

1 Pure Functional Isometric Contraction is a method of static resistance, applying maximum force against an unmovable object, working with an empty bar. The usual system consists of three-threes: three presses, three pulls and three knee bends. To these are often added the shoulder shrug and the raise on toes and, where facilities permit, the Hoffman Frog Kick, a system of hanging on the overhead bar, pulling the knees to the chest to strengthen the back, the sides and the midsection.

With this system, the minimum time from which you can expect to achieve results is a three minutes rest period and 10 minutes of work. The very best system is to perform three-tens: two presses, two pulls and two knee bends. These are the exercises most often used in the One Minute a Day Functional Isometric Contraction System. Six exercises for 10 seconds each. To these are often added two good exercises, the raise on toes and the shoulder shrug. Those who have time and sufficient energy will practice the three-threes, a press at chin height, one at top of head height, one 3 or 4 inches below lookout at arms straight position, three pulls, one at knee level, one at belt height while raised on toes, one at breast bone height, three knee bends, one with the body lowered a few inches, the 1/8th bend we call it, a lower bend about half way between parallel and the legs straight position, and one about parallel. A full course will include the Hoffman Frog Kick. These exercises are practiced from 6 to 12 seconds, with maximum effort. It's a simple system and brings good results. You should have a clock on the wall with a large second hand so that you can time yourself. If you don't have a clock, count 1001, 1002, 1003 etc.

2 FUNCTIONAL ISOMETRIC CONTRACTION TRAINING WITH WEIGHTS

To properly perform the special exercises in the suggested advanced training methods, 2, 3, 4, 5, 6, 7, 8, 9 and 10, you need a strong, sturdy rack with adjustments every two inches. These are usually made with 2 x 4s, 4 x 4s or with steel pipes. You can build your own rack if you have the proper facilities or you can purchase one of the well made racks which are offered

by the Hoffman Foundation. The 1 x 4 rack in which 92 holes are drilled. It comes complete with steel attachments to fasten to the floor, with attachments to fasten to the wall, with 4 long, strong retaining pins. The 4 x 4 rack is basically the same except that it is at least twice as strong and will handle as heavy poundages as you can learn to use. The best rack of all is the Hoffman Isometric Isotonic Super Power Rack. This is indeed a super power rack, a device strong enough to handle all the weight you can put on a bar up to 1000 pounds if you use the seven foot chrome vanadium bar the same steel which is used in the York International Weight Lifting Set. This Super Rack includes four steel pipes 8 feet in height can be made shorter if desired in which holes have been drilled every two inches. Large 1-1/2 inch holes are drilled in the front standards for the practice of Functional Isometric Contraction against static resistance. 550 holes are drilled in all. Flanges are welded top and bottom to the uprights so that the outfit can be fastened to the floor, other attachments are fastened to the top of the rack so that it can be attached to the wall. Four heavy duty retaining pins are supplied with the Hoffman Isometric Isotonic Super Power Rack. Other accessories aid in the building of strength, muscle and athletic ability which are listed among the attachments and special equipment which can be used with this rack.

HUNDREDS OF SUPER POWER RACKS IN USE

As this is written, hundreds of these super racks have already been sold and are in use in a great many college universities in the nation, in gymnasiums, Y M C A's and private home training quarters. Sensational results are being obtained with the advanced training methods as outlined in this little course and the use of the Hoffman Isometric Isotonic Super Power Rack.

3. MUSCLE CONTRACTION WITH LIMITED MOVEMENT

With the usual weight lifting exercise or actual weight lifting, about 80% of the effort is expended at the start of the movement, the other 20% is used to carry through the weight to the completion of the movement. That means that there is little strength building effect to much of the movement. The object of these limited movements is to make sure that there is not a weak spot, usually what is called the "sticking point," or there is not a failure to complete the movement or to hold the weight overhead as in lifting.

For thirty years we have been telling the readers of *Strength & Health* magazine and our various courses that they should build or obtain a Super Power Rack so that they could practice these limited movements. Our books and courses have been translated into the Russian language, so soon they profited by this advice and have power racks very similar to ours in all their gymnasiums. We can note the great improvement the Russian lifters made from the time they installed these racks. It is a principle part of their training. On our various trips to Russia we saw them concentrating on the starting press, the middle press, holding heavy weights overhead, practicing particularly the middle pull raised on toes and the top pull, the starting jerk and the finishing position of the jerk where the weight must be held overhead for two seconds.

The great improvement of other Communist weight lifters, particularly the Polish and Hungarian lifters, who now hold 8 of the 24 world records, dates from the practice of limited movements. At one time all the records were held by Russia and the United States and after the 1956 world's championships, the American team held 14 of the world's records, as many as all the rest of the world combined.

So be sure that limited movement is a part of your training. To practice the starting press, you place one pin at shoulder height. The holding pin is at eye level. If you are practicing limited movements in this position you perform repetition presses from the starting pin to the top pin. Six repetitions is the usual procedure if you are a beginner or out of condition. Many trainees hold the weight for 6 seconds at the completion of the 6th movement. This teaches the muscles to make a stronger contraction.

The middle press extends from eye level to 4 inches above the head, the finish press from 4 inches above head to arms' length overhead, or if you want to hold it isometrically at the completion of 6 movements, the top pin should be set 3 or 4 inches below the arms extended or lock out position. In the pulling exercises, you set the starting pin at knee level, the top pin at lower abdomen level, pull between these points for the desired number of repetitions, holding the last one against the pin for six seconds, if you desire. The middle pull is from a pin set at the height of the lower abdomen to a pin set at height of belt when raised on toes. Pull for the desired number of repetitions between these two pins holding the last repetition for six seconds against the pin. For the high pull, set the lowest pin at belt height, pull from there to breast bone height, perform the desired number of repetitions and hold for six seconds.

The top leg bend starts from a position about a foot below the legs straight position and there is no need for the top pins as you will continue to the legs straight position. The middle bend starts from about 6 inches above parallel to about a foot below the legs straight position. Perform these movements for six repetitions and hold the last one for six seconds.

The bottom leg bend is of great importance. There are some who are warning you about full knee bends. They are wrong, dead wrong. All over the world people do full deep knee bends as a part of their life. The Oriental lifters are the world's greatest elements and their chief training exercise is the limited movement of the low bend, from the low squat position to about 6 inches above parallel. They bounce in this position and develop marvelous legs. Perform this movement at least 6 repetitions, and hold the last one for six seconds.

A similar method of limited movement can be practiced with most any of the many good body and strength building exercises, which we will offer later in this course. These Muscle Contraction with Limited Movements are most important to you. Regardless of your physical desires include them in your training.

4. MUSCLE CONTRACTION WITH UNLIMITED MOVEMENT

This type of training is a little different than the old form of weight training. The major difference is that the Hoffman Isometric-Isonomic Super Power Rack serves as a squat stand, a press stand, a leg press stand, a press bench, an inclined board, an abdominal board, a chinning bar, a pulley machine and a hand, wrist and forearm developer.

You can place the bell where you want it and work over the entire range of movement with safety and convenience. You can train within the two uprights for safety, or you can work outside using the heads of the long pins to keep the bell from rolling away. In exercises such as the straddle lift, the leg press, and the bench press it will be wise to work between the uprights as there is a safety factor. When a man is training alone with the bench press there are times when he cannot make the last movement so that he can put the bell on the curved retainer. Then he is stuck with a heavy weight, perhaps 300 or 400 pounds, upon his chest or abdomen. It is not too easy to get away from it. But with the supporting feature of the Super Power Rack, and the holding pins, you can exercise with safety. Similarly with the leg press which is a very good exercise, but seldom practiced owing to the difficulty of getting the weight upon the extended legs, with the Super Power Rack, you can load the bar as heavy as you want to, and then press

it as many times as you wish, lower the weight to the starting or holding pins, and get out from under when you desire. One of the best exercises, an exercise with which you can exercise with a maximum poundage, is the exercise known as the straddle lift. When you do not have a Super Power Rack, you are limited in practicing this exercise to the poundage you can lift from the floor to the exercising position. When lifting from the floor, the trainee is in an awkward distorted, straining position in which he could hurt himself with too much weight. But with the Super Power rack you can load it at the position desired and with the poundage desired. You do not have to be very far advanced in this exercise to handle 500 pounds, a weight which hardly a barbell man in a thousand could lift from the floor in the straddle lift position. And this is far from the limit of man's capacity in this exercise. Men of moderate size, in the past hundred years that this exercise has been practiced, have used up to 1100 and 1200 pounds in this movement.

In regular presses, regular pulls as in the snatch position, regular deep knee bends, either front or with the weight on the back of the shoulders, you can start from a position with the weight resting on the outside of the bar, and the bar supported by the long pins. This is one of the best features of a well designed, strongly made rack, as is the Isometric Isonomic Super Power Rack.

When training with unlimited movement, it is usual to push the weight from shoulder height to arms length overhead. Tommy Kono has long combined two of the positions. The starting position at shoulder height to 4 inches above the head, and practiced in repetitions.

The pull is usually practiced over the entire range, from knee height to breast bone height, the deep knee bend from the highest to the lowest position.

All other exercises are practiced the same way. Repetition raise on toes, with toes in, toes perpendicular to the front and toes well turned out. Repetition leg presses, repetition straddle lifts, working inside the uprights as you can, or moving away if you wish, provide many excellent exercises.

5. MUSCLE CONTRACTION WITH MEASURED MOVEMENT

With this method of training we are introducing you to a New-Old system of training. New because of the timing or measuring effect, 10 seconds of pressing during a 1 minute or 10 seconds of lowering at a 10 second rest or 1 minute of rest. Too many trainers use certain forms of the "cheating system" using the body to jerk a press,

using the body to help curl a weight booming in the dead lift or the deep knee bend. Instead of being an exercise to develop a particular part of the body, the entire body becomes involved and it is a poor arm, or back or leg exercise.

Since the inception of the famous York courses, we have advised our pupils to press or pull the weight slowly, so that the weight can be felt every inch of the way and so that strength will be built every inch of the way. We suggest that weight be lowered slowly too, instead of dropped, and then almost as much benefit will be obtained in lowering the weight as in raising it. With this comparative slowness, which has more to do with the great success of York (arabes) men than anything else, about two seconds up and two down is the usual procedure. With this new method, which includes much of the old York training principle to do the exercises with comparative slowness, we go further perform the exercises with exaggerated slowness, so that maximum strength is truly developed every inch of the way. With the 10 seconds up and 10 down system you can hardly expect to use much more than half of your limit poundage. Although this will build muscle, it will not build limit strength or development, so we suggest that at times a heavier weight be employed which will permit only 5 seconds up and 5 down. This system will build more muscle and still guarantee that the muscles will be developed every inch of the way. Be sure that you include this system in your training from time to time. It is very important. You can use this method using the rack to guarantee your safety where very heavy weights are employed.

6 MEDIUM LIGHT AND HEAVY SYSTEM WITH VARYING POUNDAGES

One of the rules of heavy weight training is that you will not gain maximum strength unless you use maximum poundages. Yet you can not work to your limit always. If you do you will work on your nerve too much and retard your progress. With this form of medium, light and heavy system, one day a week handle limit poundages, endeavoring to handle more and more weight resistance from week to week. On your medium day, usually the first training day of the week, you use 80% of limit, on the light day, usually the middle of the week, you use 60% of limit or 70 if 60% seems too light. For instance, on my heavy day I use at this stage of my training, 500 pounds in the straddle lift, top knee bend and the partial dead weight lift. On my medium day, I lift 400 pounds or 80% of my limit, and on my light day, I use 300 pounds. A similar system would be used if 250 was a maximum poundage in one of the lifts on your heavy day, on the medium day you would handle 200

pounds, and on the light day only 150.

7 MEDIUM, LIGHT AND HEAVY SYSTEM VARYING HOLDING PERIODS

On your medium day hold the weight against the pins for 9 seconds. On your heavy day, hold the weight against the pins for 12 seconds of maximum contraction. On the light day hold the weight for 6 seconds.

While many of these systems of training can be practiced with the Super Power Rack, exactly as it comes, a special, moderately priced bench is needed for incline and decline pressing, for bench pressing and for Abdominal work. An attachment is needed for the hand, wrist and forearm developer for parallel bar pressing and for pulley training.

A great many exercises other than those offered with this course can be practiced with the Super Power Rack, exercises which will improve ability in many athletic events and games.

8 REPETITION ISOMETRIC CONTRACTION MOVEMENTS

Although research seems to indicate that a muscle can grow only so fast and that maximum growth will result from a maximum effort of 12 seconds, we must recognize the fact that some coaches have obtained good results with repetitions of Functional Isometric movements. This is done primarily with the idea of building endurance as well as strength. At Indiana University where the swimming team recently set five new world's records, this method of training has been used for as many as 30 repetitions in the two-arm pull over. With very heavy weights, this system has been used with 2 and even 3 repetitions. The weight is pulled or pushed against the pins, depending upon which type of exercise it is, held there for 9 or 10 seconds, lowered to the pin in moments rest, and pressed or pulled to the pin again. Some of our trainees have good results with two reps. Three or four are pretty much for most men.

9 ISOMETRIC CHANGING TENSIONS

A medical dictionary has defined Isometric contraction as *iso* - equal, *metric* a measure of the same dimensions (medical definition as applied to muscle, a muscular act showing mainly the changes in tension in a muscle without any marked shortening. When pressing against an immovable object, the triceps is contracted with the pressure varying, 6-9 or 12 seconds of maximum pressure, relax, again 6-9 or 12



Tommy Kono, the greatest American weight lifter, he set 26 world records, in four weight classes, won 10 world's championships in all. Like many of the other American weight lifters, he proved that weight lifting, weight training, and Functional Isometric Contraction, builds a superior physique, as well as weight lifting ability. Tommy Kono won his 4th Mr. Universe title at Vienna in October 1961. Tommy is shown in these photos training with the Hoffman portable rack designed for Functional Isometric Contraction training with weights. It is an inexpensive rack which serves well.

seconds maximum pressure. This type of contraction has worked well for a number of our famous trainees. It may even be the best way. Louis Riecke used it before he broke the world's record in the two hands snatch. Its success or failure will be determined by how much nervous energy you can expend, or whether it is too much for you to make the repetitions.

According to the medical dictionary, *isotonic* means a muscle that contracts without movement on stimulation with its tension remaining the same. This is what we usually consider Isometric to be, but I did write, don't consider lightly this changing tension idea that we are offering as it may be the best idea of all. Give it and Isometric Contraction repetitions a fair trial before you discard them. We have said that each man has to be his own trainer, for only he knows how he feels, what he can stand, how he is progressing. We are offering these different training ideas that have worked so well for some trainees so that you can find the method of training which is best for yourself.

10. FUNCTIONAL ISOMETRIC CONTRACTION COMPOUND METHOD

A man must be truly advanced to practice these methods. For this method consists in practicing the three usual positions without a pause. For instance, the starting press six seconds, press up to the lockout position and hold for six seconds, lower to the middle press position and hold for six seconds.

In the pull, perform the compound exercise the same way. Hold for six seconds in the starting position about knee height position, pull up to the high or breast bone position, lower to the top of belt position, hold for six seconds.

In the two hands curl, hold the starting position for six seconds, curl up to the top position and hold for six seconds, lower to the middle position and hold for six seconds.

In the bench press, hold six seconds at the barely above chest position, press to the middle position and hold for six seconds, press to near lockout and hold for six seconds. This method of training has been used by Louis Martin of England, former world champion lifter, and he continues to improve, so it must have merit.

We wish to suggest a host of other good weight training exercises which can be practiced Isometrically in three or four positions. With these exercises, plus the standard movements of the three-threes, plus the toe raise and the shoulder shrug, you will have hundreds of good exercises you can practice to your great physical benefit.

1. Raise on toes.
2. Shoulder shrug.
3. Back hand curl.
4. Regular curl.
5. Curl with thumbs up.
6. Chinning the bar.
7. One arm chinning.
8. Leg curl.
9. Leg extension.
10. Pull over.
11. Forward raise with barbell.
12. Lateral raise.
13. Pull down with arms straight.
14. Pushing the arms to the side against the steel pipe upright. Pulling the arms together against the pipes.
15. French press.
16. Press behind neck.
17. One arm sitting curl.
18. Dead weight lift behind back.
19. Supine French press.
20. Bent over lateral.
21. Twisting exercise—using uprights.
22. Deep knee bend with bar overhead.
23. Side bend.
24. Leg raise while lying on bench.
25. Bent press position—pressing against bar.
26. One arm military press.
27. Iron boot type of exercises.
28. Bench press.
29. Pull over.
30. Leg raise and leg extension.
31. Dumbbell movements while lying.
32. Inclined presses in many positions.
33. Decline presses.
34. Abdominal board movements.
35. Pressing in the parallel bar position.
36. Various positions with parallel bar training attachment.
37. Chinning or frog kicking with the parallel bar attachment.
38. Wrist roller type of exercises.
39. Stiff legged dead weight lift.
40. Bent over rowing movement.
41. Upright rowing movement.
42. The straddle lift.
43. Bend over or good morning exercise.
44. Flat foot deep knee bend.



Verne Weaver, a neighbor of Bob Hoffman. A young man who could not lift 100 pounds, dead lift style, when he started weight training, became one of the greatest. A weight lifting champion, he too built a much admired physique. Here he is exer-

cising with the Functional Isometric Contraction Muscle Builder, a training device which is light, yet strong, can be used by any boy or man, and will build a good share of strength and muscle.



45. Leg press.
46. Deep front squat or knee bend with bar on chest.
47. Sitting press.
48. One-legged deep knee bend.
49. Head strap exercise.
50. Teeth lifting.

51. Straight leg raise from hanging position.
52. Two hands press in wrestler's bridge position.
53. Pulley type of exercises. Pull down to thighs.
54. Triceps exercise standing.
55. Lying curl.
56. Pull down to thighs lying.
57. Curling to forehead.
58. Latissimus pull.
59. Rowing motion while sitting upright.
60. Rowing motion while laying face down upon bench.

And now it is up to you. We have offered you a superior course of training, new, different, original, result producing. With it you can build great strength, a magnificent physique and superior athletic ability. You will agree, when you have tried it for a few weeks or months, that it is the greatest.

